



The Story of Your



UNIVAC 1050 II

USAF BASE LEVEL SUPPLY COMPUTER PROGRAM



"...a more responsive Base Supply System for the United States Air Force."

On November 4, 1963, the Air Force announced the selection of the UNIVAC Division of Sperry Rand Corporation to provide electronic data processing equipment for the new USAF standard base level inventory control system.

UNIVAC will provide hardware and software; assist in development and installation; and furnish training, system support and maintenance at approximately 152 Air Force bases in the United States and throughout the world. The 37 million dollar project is the largest ever undertaken by the Department of Defense for computer equipment to be used in a management role. This is the largest EDPS venture of its kind to date, and typifies the Air Force desire to modernize mission support programs.

Of greater significance is the unique fact that the system will establish firm central control over Air Force base level inventory control functions. Using remote data links, the system will provide improved response to customer demands. The system has reserve capacity to support unprogrammed changes in base support posture prompted by world conditions.

At minimum cost, the Air Force can now consolidate its supply automation systems design efforts at a central point, without losing quality, capability or implementation control.

For the next two and one-half years, the Air Force, closely assisted by UNIVAC, will develop, program, train and implement this system at bases around the world. For the past year, and particularly the past six months, a series of events and decisions have been made without precedent, which provides the Air Force unparalleled flexibility and capability in supporting its far-flung supply operations. This is the story of this program to date, and of its immediate future.



The Decision

The Objective

The Air Force has continued to seek methods for improving its base level inventory control programs to increase response to modern day support needs. In late 1962, a decision was made to standardize the base spares and equipment management systems, thereby increasing supply processing capabilities for more effective support of the Air Force Mission.

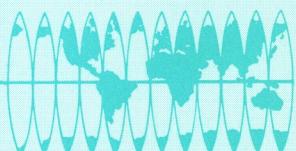
A functional electronic data processing system was to be selected and installed at every base where mission and workload justified, to support the base level inventory control requirement. Development, implementation and program control would be centralized at Headquarters USAF level, with EDPS operation and control vested in the functional manager.

The Search for the Right Equipment

A development group within the Air Force was formed to write specifications for the equipment. After extensive study of operations and requirements at Air Force bases world-wide, detailed specifications were prepared and mailed to interested computer manufacturers in April 1963. The specifications called for submission in July 1963 of proposals to install the system and its peripheral requirements. Four companies submitted proposals and competed for the selection by demonstrating their systems' capabilities during the month of August 1963.

The Selection

Air Force Source Selection Board procedures prescribed in AFR 70-15 were followed and selection of UNIVAC was announced November 4, 1963. Within days after selection, the Air Force and UNIVAC began to develop the program for this base level supply application. The Air Force had its technical program under way well in advance of this date. A select group of Air Force technicians under Headquarters USAF direction has started to block diagram, machine code and debug the system, working with major command specialists and a long-term cadre of UNIVAC senior programmers.



THE SYSTEM

The system chosen by the Air Force for the job is the UNIVAC®1050 II Real Time Processing System. A careful and detailed evaluation of the four proposals confirmed that the UNIVAC equipment met all the Air Force requirements and objectives at a purchase or rental cost lower than competitive equipment.



UNIVAC will provide the first 1050 II system for Bolling Air Force Base, Washington, D. C., where the Central Development Group, manned by Headquarters USAF, Major Command and UNIVAC personnel, is assembling, compiling and testing machine coded programs. Following this, the lead base installation will be established at Andrews Air Force Base near Washington, D. C. in May 1964. When successful test of the lead base system has been accomplished, world-wide implementation at the rate of ten computer installations a month will begin, to run until program completion in December 1965.

KEY to the success of this program will be the UNIVAC 1050 II Real Time Processing System, a reliable, flexible system specifically designed to meet Air Force needs. This system is characterized by:

RELIABILITY—mandatory in a real time system, UNIVAC equipment and components undergo rigid tests before, during and after installation. Contributing to its record of reliability is extensive experience in critical military, space research and civilian applications. These include Air Force (Athena and Nike-Zeus), Navy, NASA, Marine Corps, Eastern Air Lines, Westinghouse.

MODULARITY—"building block" concept design provides for expansion or reduction of capacity to meet the workload. Storage capacity of the system can be increased as necessary.

REMOTE DEVICE CAPABILITY—all remote input/output devices can communicate directly with the Central Processor concurrently without manual intervention or off-line conversion devices. Installation of this system will mark the first time such capability has been available to the Base Level Inventory Control Function.

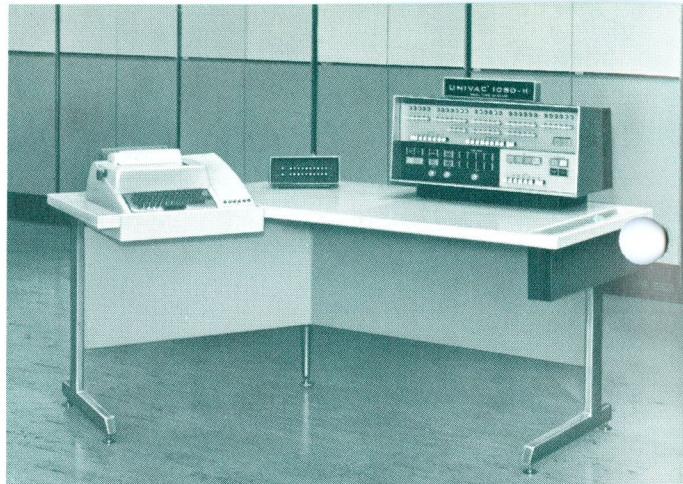
SIMPLICITY—comparative ease of programming, adequacy of training plans, and availability of appropriate software, make the system quickly responsive to introduction and implementation at all bases. Simplicity of operation and checking procedures assures accurate, speedy processing.

- SUPPORT ADVANTAGES**—Installation & Delivery Schedules—large production capacity of UNIVAC is more than adequate to meet schedule without sacrifice in quality or in strict testing procedures.
- Software—complete and thoroughly tested software available to program and operate the system; requires minimum training and possesses a logic readily understandable by inexperienced personnel.
 - Training—instruction of Central Development Group personnel began two weeks after announcement of the selection. UNIVAC will participate with Air Training Command in the training of Major Air Command conversion teams and base operator personnel throughout the life of the program. (See Installation schedule.)
 - Maintenance—UNIVAC provides maintenance by field engineering personnel at each installation in U. S. and overseas. An adequate inventory of spare parts will be stocked at each overseas site to prevent extended down time.

THE 1050 II COMPONENTS

The memory cycle time of the 1050 II is 4.5 microseconds. The remote equipments operate on a time shared basis with all other components of the system. There are 12,288 characters of core memory for non-tape systems and 16,384 characters for tape systems.

The Communication Subsystem is designed to provide efficient utilization of all remote devices and coordination with the processor. Specific areas of memory are reserved for receipt and transmission of data characters to and from the remote devices. Program instructions are not required to enter characters in and process characters from memory. Designed to time share memory with all other peripheral devices, the Communications Subsystem is one of the most advanced available. A timing device is included to detect line or circuit failures. This timing device can be set, reset and tested by software.



1050 CONSOLE AND CENTRAL PROCESSOR

The Console provides the communications link between the operator and the Processor. It contains switches to correct or override error conditions, to debug programs on line, to manually insert or inhibit interrupts and to provide manually set sense indicators for program use.



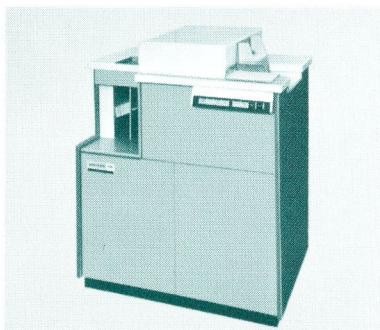
1057 FASTRAND IAS UNIT

Data-storing capability ranges from 8.24 million to 66.06 million alpha-numeric characters. All bits, data and non-data, are recorded serially in independent tracks. Data bits are transferred to and from this unit in bit serial, character/word serial fashion.



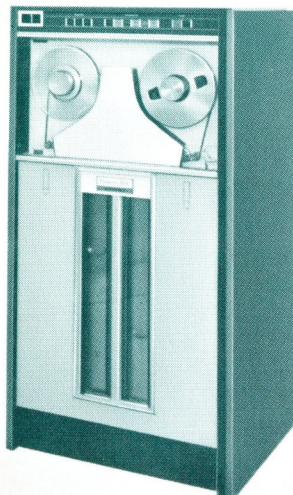
1053 LINE PRINTER

Capable of printing 650/700 alpha-numeric lines per minute, the Line Printer provides 128 printing positions of 63 characters. Formatting, editing and line spacing are performed under program control.



1052 CARD PUNCH

The unit punches cards at 300 cards per minute. Transfer of information can proceed concurrently with computation and with operation of both Reader and High Speed Printer.



1054 UNISERVO III C TAPE DRIVE. The unit reads and writes under control of the magnetic Tape Control Unit. It allows read - compute and write - compute, but not read-write-compute. The Control Unit permits writing and reading in two modes, translated and binary.



1051-1 CARD READER

The 400 card-per-minute Reader consists of card hopper, wait station, read head and associated buffer register, card stacker and sprocket drum. The read head senses photo-electrically the contents of each card frame.



1066 REMOTE KEYBOARD PRINTER. This Printer provides remote stations with on-line input/output to and from Central Processor.

THE 1050 II

IN THE AIR FORCE LOGISTICAL SYSTEM

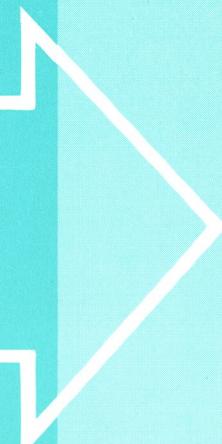
The 1050 II has a vital role in performing the retail supply functions at base level of controlling, issuing and requisitioning materials and forecasting requirements.

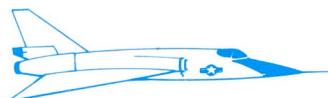
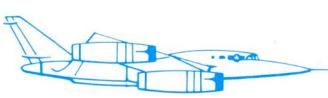
MANUFACTURER

AIR
MATERIEL
AREAS

BASE SUPPLY

BASE
UNITS







The new Air Force Supply System, operating on the UNIVAC 1050 II at Air Force bases around the globe, will be fully operational by December 1965. For schedule of installation dates and bases listed in the program, please turn the page . . .

WORLD-WIDE INSTALLATION SCHEDULE

A production and delivery schedule to meet Air Force command installation and conversion capabilities can be fully met by the UNIVAC organization. This schedule envisions complete installation and on-line operation of all bases and units in the system by December 1965, at a rate of ten base installations per month beginning in September 1964.

Action dates in the schedule:

November 1963

UNIVAC begins programming work with Air Force development group

March 1964

Computer for use in training will be installed at Sheppard AFB, Texas

April 1964

The development group, Air Training Command and UNIVAC begin training command teams and base personnel

May 1964

UNIVAC installs lead base computer at Andrews Air Force Base

May 1964

Computer for use in training will be installed at Amarillo AFB, Texas

June 1964

Initial training cycle is completed

July 1964

Air Force begins evaluation of Andrews operations

September 1964

Commands world-wide installations

December 1965

Commands complete installation schedule

The following table lists each Air Force Base included in the plan and the scheduled date for installation of the UNIVAC 1050 II computer system as of December, 1963:

TAC

Nellis	September	1964
George	September	1964
MacDill	October	1964
Seymour Johnson	October	1964
Luke	November	1964
Cannon	November	1964
McConnell	December	1964
Sewart	December	1964
England	January	1965
Myrtle Beach	January	1965
Pope	February	1965
Langley	February	1965
Shaw	March	1965
Hurlburt	March	1965

ATC

Sheppard (training site)	March	1964
Amarillo (training site)	May	1964
Randolph	December	1964
Laughlin	February	1965
Stead	March	1965
Reese	April	1965
Williams	May	1965
Moody	June	1965
Laredo	July	1965
Mather	July	1965
Amarillo	August	1965
Sheppard	August	1965
Webb	September	1965
Lackland	September	1965
Lowry	October	1965
Keesler	October	1965
James Connally	November	1965
Chanute	November	1965

HQ COMD

Bolling (test site)	February	1964
Andrews	May	1964

AFLC

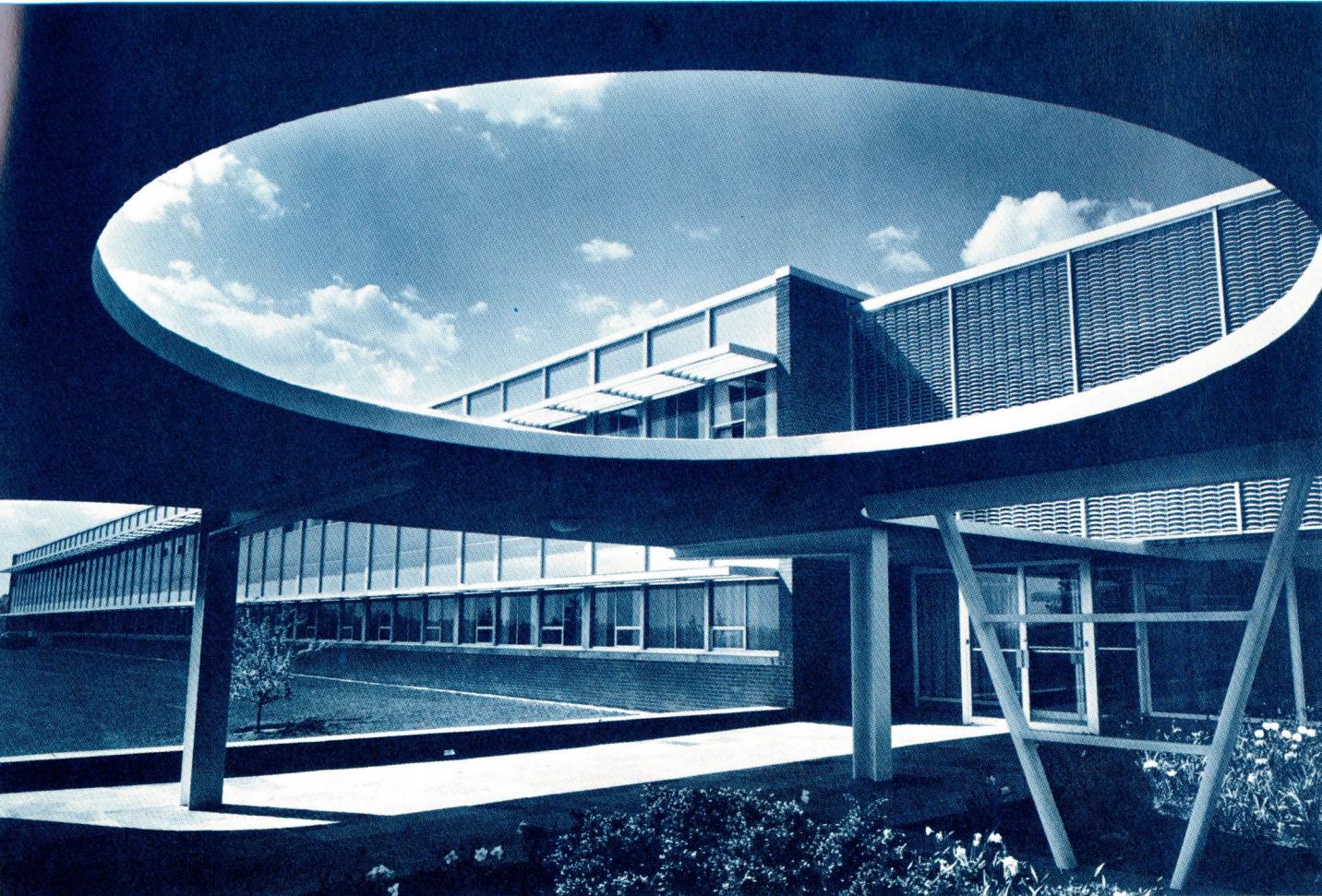
Wright-Patterson	September	1965
Griffiss	November	1965

ADC

Otis	September	1964
Richards-Gebaur	September	1964
Hamilton	October	1964
Truax	October	1964
McChord	November	1964
Selfridge	November	1964
Tyndall	December	1964
Ent	December	1964
Portland	January	1965
Stewart	January	1965
Oxnard	February	1965



Kincheloe	February	1965	PACAF	
Kingsley	March	1965	Osan	May 1965
Suffolk County	March	1965	Hickam	August 1965
Duluth	April	1965	Clark	August 1965
Perrin	April	1965	Kadena	September 1965
Paine	May	1965	Yokota	September 1965
Thule	May	1965	Naha	October 1965
			Tachikawa	October 1965
			Itazuke	November 1965
			Misawa	November 1965
AFSC				
Patrick	September	1964		
Holloman	October	1964		
Eglin	November	1964		
Edwards	December	1964	Offutt	September 1964
Kirtland	January	1965	March	September 1964
Hanscom	February	1965	Barksdale	September 1964
			Westover	September 1964
			Castle	October 1964
			Carswell	October 1964
			Loring	October 1964
			Homestead	October 1964
			Ramey	November 1964
			Biggs	November 1964
			Ellsworth	November 1964
			Bergstrom	November 1964
			Dow	December 1964
			Altus	December 1964
			Fairchild	December 1964
			Columbus	December 1964
			Beale	January 1965
			Clinton Sherman	January 1965
			Turner	January 1965
			Vandenburg	January 1965
			Bunker Hill	February 1965
			Walker	February 1965
			Blytheville	February 1965
			Pease	February 1965
			Davis Monthan	March 1965
			Lockbourne	March 1965
			Plattsburgh	March 1965
			Goose	March 1965
			Mt. Home	April 1965
			Little Rock	April 1965
			Dyess	April 1965
			Ernest Harmon	April 1965
			Wurtsmith	May 1965
			McCoy	May 1965
			Schilling	May 1965
			Andersen	May 1965
			Malmstrom	June 1965
			Minot	June 1965
			Grand Forks	June 1965
			Brize Norton	June 1965
			Forbes	July 1965
			Larson	July 1965
			Glasgow	July 1965
			Torrejon	July 1965
			Lincoln	August 1965
			K. I. Sawyer	August 1965
			F. E. Warren	August 1965
			Moron	August 1965
			Whiteman	September 1965
			Zaragoza	September 1965
AAC				
Elmendorf	July	1965		
Eielson	August	1965		
AU				
Maxwell	August	1965		
MATS				
Kindley	April	1965		
Charleston	May	1965		
Hunter	June	1965		
Travis	August	1965		
McGuire	September	1965		
Dover	October	1965		
Lajes	October	1965		
Orlando	November	1965		
Scott	November	1965		
USAFSOUTHCO				
Albrook	October	1965		
USAFE				
Wiesbaden	October	1964		
Evreux	November	1964		
Hahn	December	1964		
Toul-Rosieres	January	1965		
Lakenheath	February	1965		
Rhein Main	March	1965		
Bentwaters	April	1965		
Laon	April	1965		
Aviano	May	1965		
Sembach	June	1965		
Sculthorpe	June	1965		
Chateauroux	July	1965		
Incirlik	September	1965		
Cigli	September	1965		
Camp New Amsterdam	October	1965		
Ramstein	October	1965		
Alconbury	November	1965		
Spangdahlem	November	1965		
Bitburg	December	1965		
Wheelus	December	1965		



SPERRY RAND RESEARCH CENTER

UNIVAC-READY TO GO

Unique features of the UNIVAC 1050 II Real Time System reflect accurately the capacity and production capability of the UNIVAC corporate structure. From its pioneer position in the infant EDP industry two decades ago, UNIVAC has developed the experience, know-how and initiative to win computer contracts in vital areas of defense and industry, and to execute them completely. In recent years, installations of UNIVAC have broadened production horizons and improved research and development capacity in both pure and applied research areas. Its ever-increasing development of program packages and software has aided system operations and provided greater support to customers at all levels.



WHITPAIN ENGINEERING CENTER

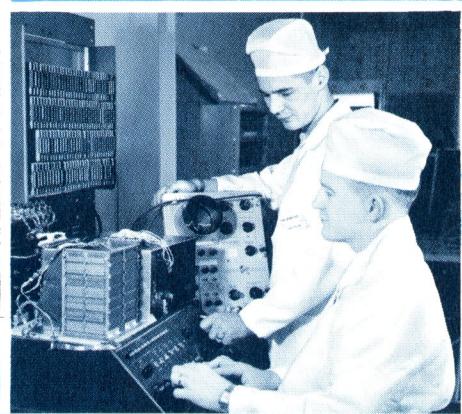
Management and Engineering

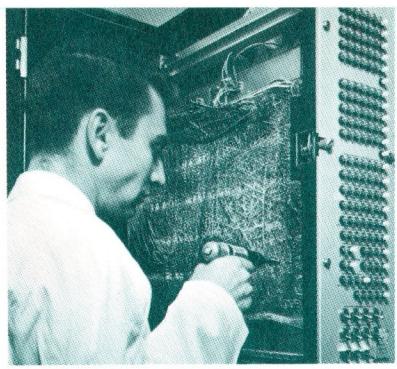
The UNIVAC top management team is engineer-oriented. UNIVAC employs more than 17,000 people who are involved exclusively with computer research, development and production. The Whitpain Engineering Center near Philadelphia employs 700 scientists, engineers and technicians, and maintains 25 separate laboratories for basic and applied research, product design and quality control.

Research and Development

These two laboratories cover the spectrum of computer-related research. Sperry Rand Research Center in Sudbury, Massachusetts, conducts research which provides the foundation for engineering of the future. St. Paul, Minnesota, Research Laboratory works on new techniques, materials, circuits and components in intensive applications of research to computer systems.

ST. PAUL RESEARCH LABORATORY





Manufacturing, Shipping and Installation

With employment exceeding 100,000, Sperry Rand operates 92 manufacturing facilities in the U. S. and abroad. Major production operations are in Philadelphia, Pennsylvania, with some components being produced in Utica, New York. The UNIVAC government marketing headquarters in Washington, D. C., is supported by a network of regional and area offices throughout the nation and the world. Specially-designed moving equipment is stationed at key points to expedite shipment and delivery of hardware.





GOVERNMENT
MARKETING
HEADQUARTERS
IN WASHINGTON



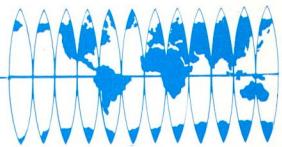
Fully-equipped Classrooms



Training Center

Training

The government marketing facility in the Nation's Capital features a UNIVAC Customer Training Center with modern, fully-equipped classrooms, audio-visual training aids, library and study rooms and an auditorium. The Training Center is available to supplement Air Force training programs and to augment computer support activities for all government computer system installations of UNIVAC.



HEADQUARTERS UNITED STATES AIR FORCE

**DIRECTORATE OF
DATA AUTOMATION**

PROJECT OFFICER

LT. COLONEL S. P. STEFFES

**DIRECTORATE OF
SUPPLY**

PROJECT OFFICER

LT. COLONEL A. B. JENNINGS

**USAF DATA SYSTEM DEVELOPMENT AND
CONTROL GROUP
BOLLING AFB**

DATA AUTOMATION PERSONNEL

TECH SYSTEM ASSISTANCE
PCAM PROCEDURE
EDP PROGRAMS
TESTING — IMPLEMENTING
FIELD LIAISON

SUPPLY PERSONNEL

SYSTEMS DEVELOPMENT
TESTING
IMPLEMENTING
MAINTAINING
FIELD LIAISON

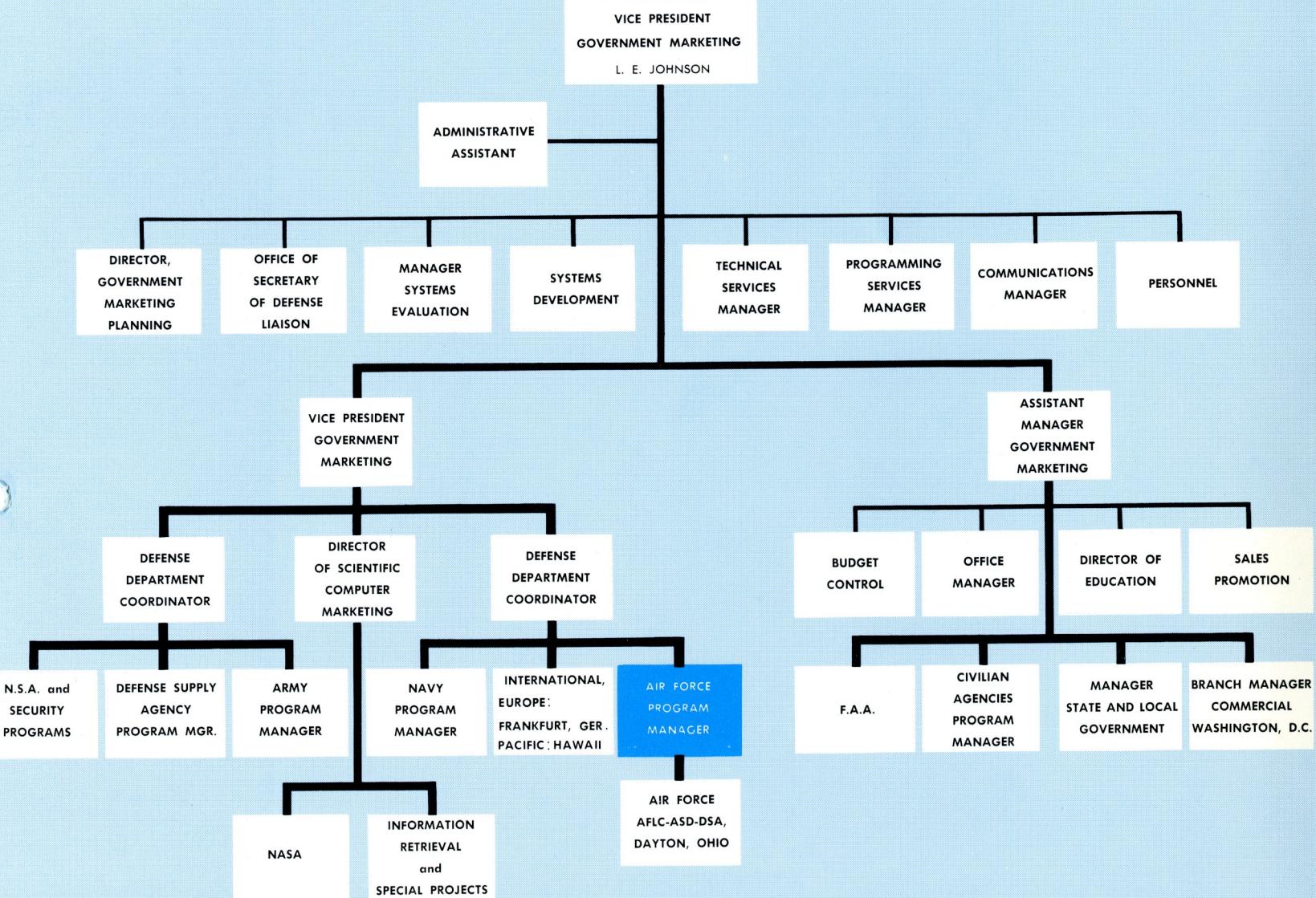
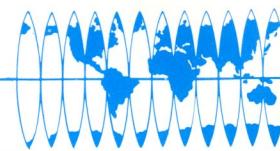
JOINT EFFORT

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USAF Objectives

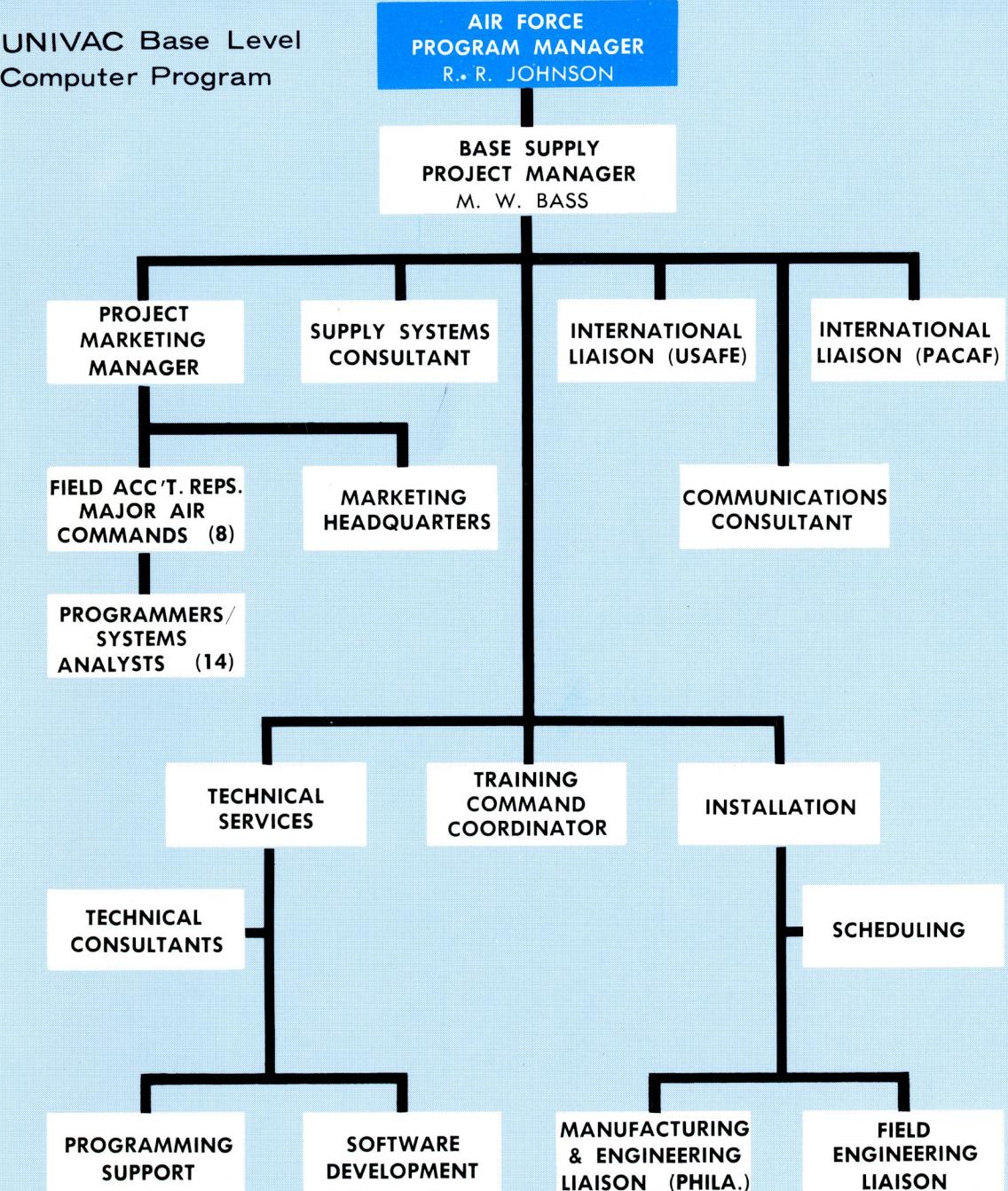
- Firm Control
- Uniform Equipment
and Procedures
- Instant Response
- Full Accounting
Functions
- Reserve Capacity
- Management Data
- Data Link Capability
- Reliability

UNIVAC GOVERNMENT MARKETING



UNIVAC

**UNIVAC Base Level
Computer Program**



UNIVAC

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WASHINGTON, D. C. 20007